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CHAPTER REPORTS

THE CORNELL CHAPTER

During the academic year 1915-16, ten meetings were held, at nine of which a scientific program was presented. Two meetings of especial interest were devoted to departmental demonstrations of research work under investigation by members in the department. The general policy of the chapter has been to invite the public to the lectures and demonstrations, and the large attendance in most cases has been good evidence of the interest shown in the work of the Society. The usual social hour for members and their wives was held immediately following many of the lectures.

The list of meetings with speakers and dates is as follows:
The Bearing of the Modern Study of Heredity on our Ideas of Evolution, by Dr. T. H. Morgan of Columbia University, October 18.

Plant Life in the Cayuga Lake Basin, by Professor K. M. Wiegand, November 23.

The Habits of Spiders, by Professor J. H. Comstock, December 16.
Some Present-day Ideas Regarding Soil Fertility, by Professor T. L. Lyon; followed by an inspection of the new soil technology laboratories, January 13.

Industrial Electric Heating, by Professor C. F. Hirshfeld, Chief of the Research Department of the Detroit Edison Co., February 17.

Experimental Demonstration of Research in Progress, by members of the Department of Psychology, and inspection of the psychological laboratories, March 23.

A Biological Expedition to Great Slave Lake, by Mr. Francis Harper of the N. Y. State Conservation Commission; followed by business meeting and election of new members, May 8.

Annual Initiation Exercises and Dinner, May 15.

A Successful Campaign against the New Jersey Mosquito, illustrated with moving pictures, by Professor T. J. Headlee, State Entomologist of New Jersey, May 19.

Experimental Demonstrations and Exhibits by members of the Medical College, May 25.

At the annual meeting held for the purpose, sixty-seven new members were elected by the Alpha Chapter. This number includes

three members from the faculty, forty-one graduates, twenty-two undergraduates, and one alumnus, as follows*:

MEMBERS OF THE FACULTY OF CORNELL UNIVERSITY—3

Alexander Gray, B.S. in C.E., Edinburgh, 1903; Whit. Sch., B.S. in E.E., McGill, 1905. Professor in Charge of Electrical Engineering. P. The Heating of Induction Motors; Textbook on Electrical Machine Design; Textbook on Principles and Practice of Electrical Engineering. C. Brush Friction.

Frederick Fritz Koenig, D.V.M., Cornell, 1909. Assistant Professor of Veterinary Medicine. P. "Case Records" from the Ambulatory Clinic. I. Collection and Tabulation of Clinical Case Records.

Andrew Theodore Rasmussen, A.B., Brigham Young University, 1909. Instructor in Physiology. P. The Oxygen and Carbon Dioxide Content of the Blood during Hibernation in the Woodchuck. C. Theories of Hibernation; The Absence of Chromatolytic Changes in the Central Nervous System of the Woodchuck during Hibernation (conjointly); The Effect of Thyroparathyroidectomy on the Blood Coagulation in the Dog (conjointly); The Effect of Temperature on the Blood Coagulation Time in the Dog (conjointly). I. (Three other titles relating to the Woodchuck during Hibernation.)

GRADUATE STUDENTS—41

Charles Harold Berry, M.E., Cornell, 1912. Instructor in Steam Power Engineering. P. The Theory of Humidity; Air in Compression and Expansion; Discussion on the High-Pressure Unaflo Engine. I. An Investigation of the Operating Characteristics of the Le Vac Vacuum Pump (Thesis).

Homer Guy Bishop, B.S., Ohio University, 1911, M.S., 1912. Assistant in Psychology. C. Improvements in Demonstrational Apparatus. I. On Images of Memory and Imagination.

* Following each name is a list of research titles, in some cases only partially complete, indicating the work upon which nomination is primarily made, with symbols prefixed as follows.

P. Published articles or books.

C. Completed research not published.

I. Incomplete research in progress.

- Sherman Chauncey Bishop, B.S., Cornell, 1915. Assistant in Entomology. P. A Biological Reconnaissance of the Okefinokee Swamp in Georgia.—The Snakes (joint author). I. Supplementary Report on the Reptiles; Spiders of the Okefinokee Swamp.
- Chester Claremont Camp, B.A., Grinnell College, 1914; A.M., Cornell, 1915. Fellow in Mathematics. I. Linear Differential Equations (Thesis).
- Wallace Larkin Chandler, B.S., California, 1914, M.S., 1915. Instructor in Parasitology. P. (Papers on Mosquito and Fly Control) (collaborator). C. The Morphology and Life History of Certain Ixodoidæ. I. The Morphology of Ornithodoros.
- Charles Chupp, A.B., Wabash College, 1913. Instructor in Plant Pathology. I. A Study of Plasmodiophora Brassicæ (Thesis).
- Charles Dudley Corwin, M.E., Cornell, 1908. Instructor in Machine Design. Surface Combustion (joint author). I. Surface Combustion as Applied to Steel Making.
- Joseph Vital De Porte, A.B., Oklahoma, 1912; A.M., Princeton, 1914. Assistant in Mathematics. I. Irrational Involutions on Algebraic Curves (Thesis).
- Edgar Hutton Dix, Jr., M.E., Cornell, 1914. Instructor in Experimental Engineering. C. Investigation of Fatigue-Resisting Properties of 90% Copper—10% Aluminum Alloys. I. (Continuation of the above, and Investigation of Tensile Properties); Heat Treatment of various Species of Copper-Zinc Alloys, and Effects on Structure (metallographic) and Tensile Properties.
- Vining Campbell Dunlap, A.B., Bates College, 1914. I. Morphology and Development of several Species of Pleurotus; The Development of Lepiota granosa.
- Silas Shihadeh George, B.A., Beirut College, 1912; M.A., Nebraska, 1914. Susan Linn Sage Fellow in Psychology. C. The Gesture of Affirmation among the Arabs. I. The Scale of Sensory Judgments in Metric Methods.
- Samuel Alexander Graham, B.S. in F., Minnesota, 1914. Assistant in Entomology. I. The Biology and Control of the White Pine Weevil.

- Guy Everett Grantham, A.B., Indiana, 1909, A.M., 1913. Fellow in Physics. P. The Time Factor in Selenium Resistance. I. Crystal Structure by means of X-Rays; (Some Original Problems in Alternating-Current Work) (conjointly).
- Ludlow Griscom, B.A., Columbia, 1912; A.M., Cornell, 1915. Assistant in Zoölogy and Entomology. P. Numerous Ornithological Notes. C. The Field Identification of Water Fowl.
- Charles Harvey Hadley, Jr., B.S., N. H. College of A. & M., 1912. Investigator in Entomology. P. Contact Sprays for Brown-Tail Caterpillars; The Rhododendron Lace-Bug (joint author) and (several others). C. The Lesser Migratory Locust in New York.
- Miles Bertine Haman, B.S., Cornell, 1915. Assistant in Forestry. I. The Distribution of North American Conifers, and Its Relation to certain Ecological Factors (Thesis). The Effect of Commercial Fertilizers in Forest Nursery Practice.
- Royal Joyslin Haskell, B.S., Dartmouth College, 1912. Instructor in Plant Pathology. C. A Fusarium Stem-Wilt and Tuber-Rot Disease of Potatoes. I. A Wilt Disease of the Potato (Thesis).
- Leon Augustus Hausman, A.B., Cornell, 1914. Instructor in Meteorology. C. Contributions to the Life-history of *Amoeba proteus*; The Ecology of the Protozoa of the Cayuga Lake Basin.
- Walter Norton Hess, A.B., Oberlin, 1913. Assistant in Insect Morphology. I. The Chordotonal Organs of Certain Cerambycid Larvæ; Life History of *Ragium Linaetum*.
- Algernon Charles Irwin, B.S., Ohio University, 1903. C. The Maximum Carrying Capacity of Iron and Steel Railroad Bridges (Thesis).
- Harry E. Knowlton, B.S., Michigan Agricultural College, 1912. Assistant in Botany. I. Physiological Study of the Viability of Pollen.
- Laurence Howland MacDaniels, A.B., Oberlin, 1912. Instructor in Botany. I. The Histology of the Phloëm in the Ontogeny of Woody Angiosperms.
- Walter Hoge MacIntire, B.S., North Carolina Agricultural and Mechanical College, 1905; M.S., Penn State, 1909. P. Field Equipment for Investigations of Soil Leachings; A New Method

- for the Determination of Carbonates in Soils; several other titles. I. Carbonation of Burnt Lime in Soils.
- Edward Lawrence Mack, B.S., Union, 1912. C. Electrolytic Production of Perchlorates.
- Percy George McVetty, M.E., Cornell, 1913. Instructor in Research Engineering. I. Viscosity of Lubricants. C. Several Commercial Reports.
- Samuel Arthur Mahood, B.S., Nebraska, 1910, M.A., 1911. Instructor in Chemistry. I. Tetraiodophenolphthalein and Tetraiodophenoltetrachlorophthalein and Some of their Derivatives.
- Lua Alice Minns, B.S., Cornell, 1914. Instructor in Floriculture. I. A Study of Chinese Primulas.
- Edward Gardner Misner, B.S., Cornell, 1913. Instructor in Farm Management. I. A study of the Dairy Industry of Broome County, with a detailed Analysis of the Cost of Production.
- Philip Alexander Munz, A.B., Denver, 1913, A.M., 1914. I. Venation of Zygoptera-Odonata.
- Ruby Rivers Murray, A.B., Mt. Holyoke, 1912, A.M., 1914. Fellow in Chemistry. C. Diphenyltetrachlorophthalide and Some of its Derivatives. I. A new Class of Phthaleins—Mixed Phthaleins, Made by Condensing Paraoxybenzoylorthobenzoic Acid with Phenols.
- Waro Nakahara, B.S., Tokyo Agricultural College, 1915. Graduate Assistant in Entomology. P. A Revision of the Mantispidæ of Japan; On the Osmylinae of Japan, etc., etc. I. The Venation of the Neuroptera; The Silk Glands of Neuronina.
- Howard A. Pidgeon, B.Sc., Ohio University, 1911, M.Sc., 1912. Instructor in Physics. P. Irregular Wave Forms—Form Factor, and its Significance (joint author). I. Magnetic Properties of Cobalt.
- Charles Roy Reid, B.S. in E.E., University of Oregon, 1906, E.E. 1912. Sibley Fellow in Electrical Engineering. P. A Discussion of the Electrification of Steam Railways; Some Special Transformer Connections; The Use of Hyperbolic Functions in the Calculation of a Long-distance Transmission Line. I. Determination of the Most Desirable Source of Electric Power for a Small Town (Thesis).

- Gilbert Joseph Rich, A.B., Cornell, 1915, A.M., 1915. Susan Linn Sage Scholar in Psychology. (Fellow for 1916-17.) P. On the Variation with Temperature of the Pitch of Whistles and Variators; A Preliminary Study of Tonal Volume; A Preliminary Study of Vowel Qualities (joint author). I. An Exact Study of Vowel Qualities.
- Rudolph Wilhelm Ruprecht, B.S., Rhode Island State College, 1911; M.S., Massachusetts Agricultural College, 1914. P. Toxic Effect of Iron and Aluminum Salts on Clover Seedlings; The Effect of Sulfate of Ammonia on the Soil. I. Studies on Iron, Aluminum, and Manganese Compounds in Soils.
- William Hayes Sawyer, Jr., A.B., Bates College, 1913. I. The Morphology and Development of several Species of Pholiota.
- Joseph Prestwich Scott, B.S., Lausanne, Switzerland, 1910, D.V.M., Ohio State University, 1914. P. Low Level of Nitrogen Output in the Female (joint author); Nitrogen Metabolism in a case of Portal Vein Obstruction (joint author). I. Urinary Indican.
- Francis Webber Sherwood, B.S., North Carolina Agricultural and Mechanical College, 1909, M.S., 1911. Assistant in Chemistry. I. Phenosulphonphthalein and Some of its Derivatives.
- Harvey Elmer Stork, A.B., Indiana State Normal, 1914; A.M., Indiana State College, 1915. Assistant in Botany. I. Apogamy in *Taraxacum densleonis*; Cytology of Imperfect Pollen in *Oenothera*; Studies on the Development of *Cantharellus*.
- Cecil Calvert Thomas, A.B., Wabash, 1912, M.A., 1913. Instructor in Botany. I. The Relation of some Species of Blue-green Algae in pure Culture to Elementary Nitrogen.
- James Leroy Weimer, A.B., Wabash College, 1912. Instructor in Plant Pathology. C. Life Histories of three Cedar Rust Fungi and the Diseases they Produce (Thesis). I. Histological Study of the Galls Produced by *Gymnosporangium Macropus*.

MEMBERS OF THE CLASS OF 1916—22

- William Biederman, B.Ch., Cornell, February, 1916. I. A Study of the Hydrogen Compounds of Boron; Sensitiveness of the Spectroscopic Tests for Various Elements and the Masking of Spectral Lines and Bands.

- Louis Jacquelin Bradford, B.S., Swarthmore College, 1911.
Instructor in Machine Design. P. Surface Combustion (joint author). I. Surface Combustion as Applied to Steel Making.
- Frederick Christian Brandes. I. A Study of the Physical Properties of the Gypsum Products (conjointly).
- Marion Edwin Dennington.
- Henry Conrad Diercks, B.Ch., Cornell, February, 1916. I. Pressure, Temperature, Concentration Relations in the System Potassium Sulphocyanate, Sulphur Dioxide.
- Frederick Baxter Downing, Jr., Assistant in Chemistry. I. Addition Agents in Electrolysis.
- Henry Alden Foster, B.S., Arizona, 1913. I. Investigation of Different Methods to Determine the Loading and Stresses in Members of "Pennsylvania" Bridge Trusses (Thesis).
- Harlowe Templar Hardinge. I. Development of a Temperature-Change Alarm System.
- Leo Augustine Keane. I. A Study of Plaster of Paris; Limonite and the Color of Yellow Bricks.
- Frank Kovacs, Assistant in Chemistry. I. Ammonates of Copper Selenate.
- Joseph Bruce Latshaw, B.S.A., University of Missouri, 1909.
Student Assistant in Veterinary. I. The Study of the Agglutination Test in the Diagnosis of Contagious Abortion.
- Julia Moesel, Assistant in Zoölogy. C. Amphibia of Okefinokee Swamp, Georgia (collaborator). I. Vertebrates of Lake of Bays Region, Ontario.
- George Merritt Robison.
- Theodore Chittenden Rogers. I. Flow of Water through Square Culverts, etc.
- Karl Patterson Schmidt, Assistant in Entomology. C. Herpetology of North Carolina. I. Herpetology of Louisiana; Oligocene Invertebrates of the New World.
- Leon John Sivian, A.B., Cornell, February, 1916. Assistant in Physics. I. Specific Heats at High Temperature.
- Theodore Levi Smith. I. Flow of Water through Square Culverts, etc.

*Thomas Reese Spence, B.S. in C.E., Agricultural and Mechanical College of Texas, 1913. I. Relation between the Tensile and the Compressive Properties of Cement and Mortars; Study of the Effect of Consistency upon the Strength of Portland Cement.

Earl Iru Sponable, Assistant in Chemistry. I. Extraction of Thallium from Spelter Distillates; Study of Thallium Cobaltic Nitrite; Examination of Flue Dust from Pyrites.

Fred Waldorf Stewart. (Schuyler Fellow in Histology and Embryology for 1916-17.) I. The Development of Thymus IV in the Cat; Experimental Study of the Effect of Cutting the Peripheral Nerve on the Taste Buds in the Rabbit.

Charles Gasner Stupp, Assistant in Chemistry. I. Preparation of New Salts of Benzene Sulphonic Acid.

Federico Terrazas.

ALUMNUS—I

James Kemp Plummer, B.S., North Carolina Agricultural and Mechanical College, 1907, M.S., 1909; A.M., Cornell, 1911, Ph.D., 1915. P. Petrography of some North Carolina Soils and its Relation to their Fertilizer Requirements. C. The Effect of Oxygen and Carbon Dioxide on Nitrification and Ammonification in Soils.

J. G. PERTSCH, JR., *Recording Secretary*.

* Nominated as a senior to graduate in February, 1917.

THE MISSOURI CHAPTER

Four public lectures were delivered under the auspices of the Missouri Chapter. Two, the annual fall series, were given by Professor Robert A. Millikan, of the University of Chicago, on *The Subatomic World*, and *The Nature of Radiant Energy*. On February 25, Dr. W. W. Duke spoke upon *The Glands of Internal Secretion and their Relation to Growth and Mentality*. On May 8, Professor C. F. Marbut, in charge of the U. S. Soil Survey, discussed *The Development of Ideas Concerning the Field Relationship of Soils*.

A new feature of scientific meetings within the Chapter was initiated this year, and has proved productive of increased interest and activity. Three such meetings were held, and the programs were as follows:

On December 13, 1915

- Max F. Meyer: Demonstration of a very rare case of Color Blindness and Discussion of its Evolutionary Significance.
- C. Robert Moulton: Units of Reference for Basic Metabolism and their Interrelations.
- W. H. Pyle: An Experimental Study of the Mind of the Negro.

On February 7, 1916

- G. S. Dodds: The Altitudinal Distribution of Crustacea in the Mountains of Colorado.
- E. B. Branson: Origin of Thick Salt and Gypsum Deposits.
- W. A. Tarr: Origin of Chert in the Burlington Lime Stone.

On April 3, 1916

- O. R. Johnson: Factors Which Measure the Efficiency of Farming Systems.
- W. H. Lawrence: The Pollination of the Date Palm.
- George Lefevre: Genetic Studies in Poultry.

The following new members were initiated in May, 1916:

- Baskett, Edgar Drane, A.B., Missouri, 1915, A.M., 1916. Physiology. Thesis: Some Factors upon the Innervation of the Heart, with Special Reference to the Accelerator Mechanism of the Heart of the Turtle, *Emydoidea blandingi*.
- Blom, Edward Charles, A.B., Cape Girardeau Normal, 1911, B.S. in Ed., Missouri, 1915, A.M., 1916. Physics. Thesis: Charcoal Absorption in Vacua.
- Branson, De Hellick, B.S., Kansas Agricultural, 1913; A.M., Missouri, 1916. Fellow in Animal Husbandry. Thesis: The Effect of Various Planes of Nutrition on the Cost of Maintenance, Development, and Reproduction of Beef Cows.
- Corriveau, Paul Edward, B.S., N. H. Agricultural College, 1915; A.M., Missouri, 1916. Horticulture. Thesis: An Experimental Study of the Effect of Rest Period Breaking Agencies upon Root Growth of Hardwood Cuttings.
- Durant, Adrian Jackson, B.S.A., 1913, A.M., Missouri, 1915. Research Assistant, Experiment Station. Veterinary. Thesis: Complement Fixation in Hog Cholera; in progress, Complement Fixation in Contagious Abortion. Abstracts in Reports of the Missouri Experiment Station, 1915, and U. S. Experiment Station Record, 1915.

- Hardy, John Ira, B.S., R. I. State College, 1910; M.S., University of Tennessee, 1914; Ph.D., Missouri, 1917; Assistant Chemist, University of Tennessee, 1911-1915; Fellow in Agricultural Chemistry, 1916-1917. Thesis: The Effect of an Excessive Ratio of Lime to Magnesium upon Plant Growth. Publications: Associate author of several bulletins, Tennessee Experiment Station. In progress: Cumarin in Sweet Clover; Proteins and Protein Derivatives in Nutrition.
- Heinz, Albert, A.B., B.S. in Education, Missouri, 1910, A.M., 1916; Professor of Mathematics, Tsing Hua College, Peking, China. Mathematics. Thesis: First Year University Mathematics Courses.
- Hughes, Jewell Constance, A.B., University of Arkansas, 1915; A.M., Missouri, 1916. Scholar in Mathematics. Thesis: Transcendentalism of Curves and of Numbers.
- Jones, Charles Arthur, B.S. in Agriculture, 1915, University of Wyoming; A.M., Missouri, 1916. Agricultural Research Scholar in Animal Husbandry. Thesis: The Effect of Early Pregnancy and Lactation on Growth in Young Breeding Animals.
- Longwell, Chester Roy, A.B., Missouri, 1915, A.M., 1916. Geology. Thesis: The Geology and Mineralogy of the Wellington Mine, Breckenridge, Colo. In progress: A Fauna of a Part of the Middle Ordovician of Missouri.
- Loomis, Albert G., A.B., Missouri, 1914, A.M., 1915. Scholar in Chemistry, 1914-15; Fellow, 1915-16. Thesis: The Dielectric Constants of some Liquid Compounds of Vanadium; Abs. in Jour. Phys. Chem., vol. 9, 1915. Ready for press: Extraction of Radium from Carnotite Ores (with Herman Schlundt).
- Prewitt, Proviso V., A.B., Missouri, 1915, A.M., 1916. Physiology. Thesis: The Relation of the Lipase and Fat to Carbohydrate and Amylase Content of the Liver.
- Sive, Benjamin Elliott, B.C.E., University of Cincinnati, 1914; A.M., Missouri, 1916. Assistant in Chemistry, University of Cincinnati. Agricultural Chemistry. Undergraduate thesis: A New Indicator of the Azo Type. Thesis for Master's degree: The Mineral Composition of the Bovine as Influenced by Age and Condition of the Animal.

Swett, Walter Whittier, B.S., New Hampshire State; A.M., Missouri, 1916. Dairy Husbandry. Thesis: Factors Influencing the Growth of Dairy Animals.

Weatherwax, James Lloyd, A.B., Oberlin, 1912; A.M., Missouri, 1916. Physics. Thesis: An Investigation of the Stretch Moduli.

Winkler, Charles Herman, B.S. 1904, A.M. 1914, University of Texas; Ph.D., Missouri, 1916. Horticulture. A Guide to Mushroom Culture (with B. M. Duggar); (with W. S. Taylor) Nature Study and Agriculture for the Rural Schools of Texas. University of Texas, Bulletin 361, 1915. The Botany of Texas; Bulletin 18, University of Texas, 1915. Thesis for the Doctor's Degree: The Relation between Vegetative and Reproductive Activity in Plants.

Officers were elected for 1916-17. The roll of active members for the year numbered 77.

D. H. DOLLEY, *Secretary*.

NOTES

The Indiana Chapter has published a yearbook for 1916 which lists officers and members of the Chapter and the full program for the calendar year. One meeting is held in each month during the academic year and usually at each meeting two papers are read by resident members. The January meeting, however, is devoted to Convocation Week Reports by fifteen members and there are two meetings at which visiting scientists have delivered addresses. One unusual feature of the pamphlet is a full list of non-resident and former members of the Chapter.

District of Columbia Chapter.—In the list of the Charter Members published in the SIGMA XI QUARTERLY, Volume 3, No. 2, June, 1915, the name of Alden Archibald Potter, A.B. Minnesota, 1909, Assistant Pathologist, Bureau of Plant Industry, U. S. Department of Agriculture, was omitted by a clerical error.

M. W. LYON, JR., *Secretary*.